

Application No.: 09/932,779
Amendment Dated January 29, 2004
Reply to Office Action of January 5, 2004

REMARKS/ARGUMENTS

Applicants wish to thank Examiner Edmund Lee for the courtesy extended to Mr. David Banner, Agent for Applicants, during the Office Interview conducted on January 13, 2004. Applicants thank Examiner Lee for the many helpful suggestions regarding claim language he offered during the interview.

Consideration of the above-identified patent application under a Request for Continuing Examination is respectfully requested in view of the foregoing amendments and following remarks. Claims 1, 2, 3, 12, 13, 14, and 16 have been amended. Claims 8 - 11 and 19 - 22 have been cancelled. Claims 1 - 7 and 12 - 18 remain in the application.

The above-identified patent application relates to a method of fabricating three-dimensional solid objects (e.g., a sink bowl, shower pan, etc.) from single-layer sheets of solid surface materials in single-part molds wherein an applied vacuum is the only force acting upon the solid surface material. The objects so formed have a seamless depression or projection capable of holding liquid and may simulate natural materials, such as stone, granite, or marble.

Applicants acknowledge Examiner Lee's Final Restriction of claims 8 - 11 and 19 - 22 final in the parent application. These claims are now cancelled.

Claims 1, 2, 4, 5, 6, 7, 12, 13, 15, 16, 17, and 18 were rejected under 35 U.S.C. §102(b) as being anticipated by United States Patent No. 6,083,339 for BOWLS COMPRISING ACRYLIC PLASTICS FILLED WITH ALUMINA TRIHYDRATE, AND PROCESSES FOR MAKING SAME, issued July 4, 2000 to Chris R. Peters et al. PETERS et al. teach a process for thermoforming sheets of solid surface material to form particular concavo-convex or other similar shapes. PETERS et al., however, exclusively use a two part mold (FIGURE 5) wherein a heated sheet of material is compressed between a male mold portion 48 and a female mold

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portion 46. Vacuum drawn through opening 60 in female mold portion 46 may be optionally applied: "Although to date we have not attempted such, because we have been so successful with the matched-mold rigid tool, it is believed that the male mold component might be assisted by way of drawing a vacuum in the female mold cavity" (Column 11, lines 57 - 60).

Applicants' method, on the other hand, uses ONLY a single part mold having a female cavity therein. A heated, single-layer sheet of solid surface material is placed over the mold cavity. As is shown in Applicants' FIGURES 2 and 6, the edges of the sheet may be restrained by a restraining ring 15 placed over the sheet of solid surface material 18a. Restraining ring 15 is typically held in place by frame 17. The significant difference between Applicants' process and that taught by PETERS et al. is that substantially the ONLY force acting upon sheet 18a is the vacuum introduced into the mold cavity 12. This is completely different from the two-part mold method of PETERS et al. wherein a hydraulic ram or similar activator forces the male mold component into the sheet of material being deformed and, subsequently, the sheet is pressed into the female mold component.

Independent claims 1 and 12 have been amended to specifically recite a one-part mold and that the vacuum is substantially the ONLY FORCE acting upon the sheet of material being formed. The amended claims are believed to now clearly define over PETERS et al. Consequently, the rejection of claims 1, 2, 4, 5, 6, 7, 12, 13, 15, 16, 17, and 18 under 35 U.S.C. §102(b) is believed to have been overcome.

Claims 1, 2, 3, 4, 6, 7, 12, 13, 14, 15, 17, and 18 were rejected under 35 U.S.C. §102(b) as being anticipated by United States Patent No. 5,074,770 for INTEGRATED VACUUM FORMING/REACTION INJECTION MOLDING APPARATUS FOR MANUFACTURING A SHAPED POLYMERIC LAMINATE ARTICLE, issued December 24, 1991 to Peter U. Graefe.

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GRAEFE teaches a process wherein a two-layer, laminated object is formed by a combination of a reaction injection molding process for forming a first layer of the laminated article from a thermoset resin, and a vacuum forming process wherein a cosmetic resin layer is laminated to the first layer. This is a completely different process for forming a completely different article from Applicants' process or the article formed thereby. Applicants' article is a single-layer article formed from a single-layer sheet of solid surface material. Solid surface materials are homogeneous, single-layer materials. This fact is supported in a document titled *Solid Surface Properties and Applications*, which is a complementary document to ANSI/ICPA SS-1-2001, *Performance Standard for Solid Surface Materials*. The document was easily located on the Internet using a keyword search of "solid surface materials definition". The document, a copy of which is enclosed herewith as Appendix A, contains a definition of solid surface materials:

"Solid surface materials are manufactured from polymeric materials. Granules may also be added to enhance the color effects. Solid surface materials are non-porous and homogeneous, with the same composition throughout the thickness of the solid surface material. They are capable of being repaired, renewed to the original finish and fabricated into contiguous surfaces with inconspicuous seams. Solid surface materials meet the requirements of ANSI/ICPA SS-1-2001."

Applicants believe that this industry-standard definition fully supports Applicants' amendment of claims 1 and 12 which now positively recites a single-layer sheet of solid-surface material. The single-layer nature of a solid surface material is an inherent property thereof. The recitation of a single-layer sheet completely defines over any article formed using the GRAEFE process. In addition, Applicants now positively recite the absence of injection molding capability in the vacuum mold. Consequently, Applicants believe that the amendment to claims 1 and 12 overcomes the rejection of claims

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1, 2, 3, 4, 6, 7, 12, 13, 14, 15, 17, and 18 under 35 U.S.C. §102(b) over GRAEFE.

Claim 5 was rejected under 35 U.S.C. §103(a) as being unpatentable over GRAEFE in view of PETERS et al. While PETERS et al. teach using a solid surface material having a composition similar to that recited in Applicants' claim 5, the complete differences between the methods of PETERS et al. and GRAEFE, taken individually or in combination, fail to suggest Applicants' process. PETERS et al. teach the use of the solid surface material. There would be no motivation to use a relatively expensive solid surface material to injection mold an article and then laminate a resin coating over the solid surface material as taught by GRAEFE. Applicants believe that claim 5 simply recites an additional limitation to a now-allowable claim 1. Applicants, therefore, believe that the amendment of claim 1 overcomes the rejection of claim 5 under 35 U.S.C. §103(a).

Claim 16 was rejected under 35 U.S.C. §103(a) as being unpatentable over GRAEFE in view of PETERS et al. Applicants' remarks regarding the rejection of claim 5 under 35 U.S.C. §103(a) hereinabove are also applicable to the rejection of claim 16. Applicants believe that claim 16 simply recites an additional limitation to a now-allowable claim 12. Applicants, therefore, believe that the amendment of claim 12 overcomes the rejection of claim 16 under 35 U.S.C. §103(a)

In view of the foregoing amendments and remarks, Applicants respectfully request that claims 1 - 7 and 12 - 18 be allowed and the application be passed to issue.

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